



Field Service Procedure

Part Number: SP00244

Rev: B

Date: 28 March 2003

© 2003 Draeger Medical, Inc.

NM6000 Auxiliary Video Installation

[RETURN TO SERVICE PROCEDURE TABLE OF CONTENTS](#)
[RETURN TO CD-ROM TABLE OF CONTENTS](#)

NM6000 Auxiliary Video Installation

Installation Procedure

1.0 Installing the Video Splitter:

NOTE: Machine must be equipped with a flat panel display (not CRT type). If applicable, refer to Flat Panel Upgrade kit, P/N 4116805.

- 1.1 Turn the System power switch to STANDBY.
- 1.2 Remove AC power from the machine.
- 1.3 Wait at least 3.5 minutes, then after the green LED on the Vitalbus HUB has turned off, pull all circuit breakers to their 'out' position.

WARNING: Before servicing, ensure the AC power is removed from the machine and all circuit breakers are disengaged (pulled out). Failure to observe this precaution may cause injury by electric shock.

CAUTION: Use ESD precautions when handling any electronic assemblies. These assemblies contain static sensitive components.

- 1.4 Pull all circuit breakers to their 'out' position.
- 1.5 Remove and discard the upper rear cover from the machine.
- 1.6 Remove the table lamp panel (with strip chart recorder if machine is so equipped) at the front of the machine to provide access to the underside of the chassis.
- 1.7 Remove the existing flat-panel power PCB from its mounting plate. This PCB will be re-mounted to the new plate (4117796). See Figure 1.
- 1.8 Remove the existing PCB mounting plate from the machine.
- 1.9 Attach the video splitter assembly (4117803) to the remote display mounting plate with four 6-32 Kep nuts as shown in Figure 1.
- 1.10 Reinstall the existing flat-panel power PCB on the new mounting plate with the hardware that was previously removed.
- 1.11 Install the new aux video power PCB (4117521) on the new mounting plate as shown in Figure 1. Use four 4-40 x 3/8 in. btn hd skt screws and #4 lock washers.

Installation Procedure (continued)

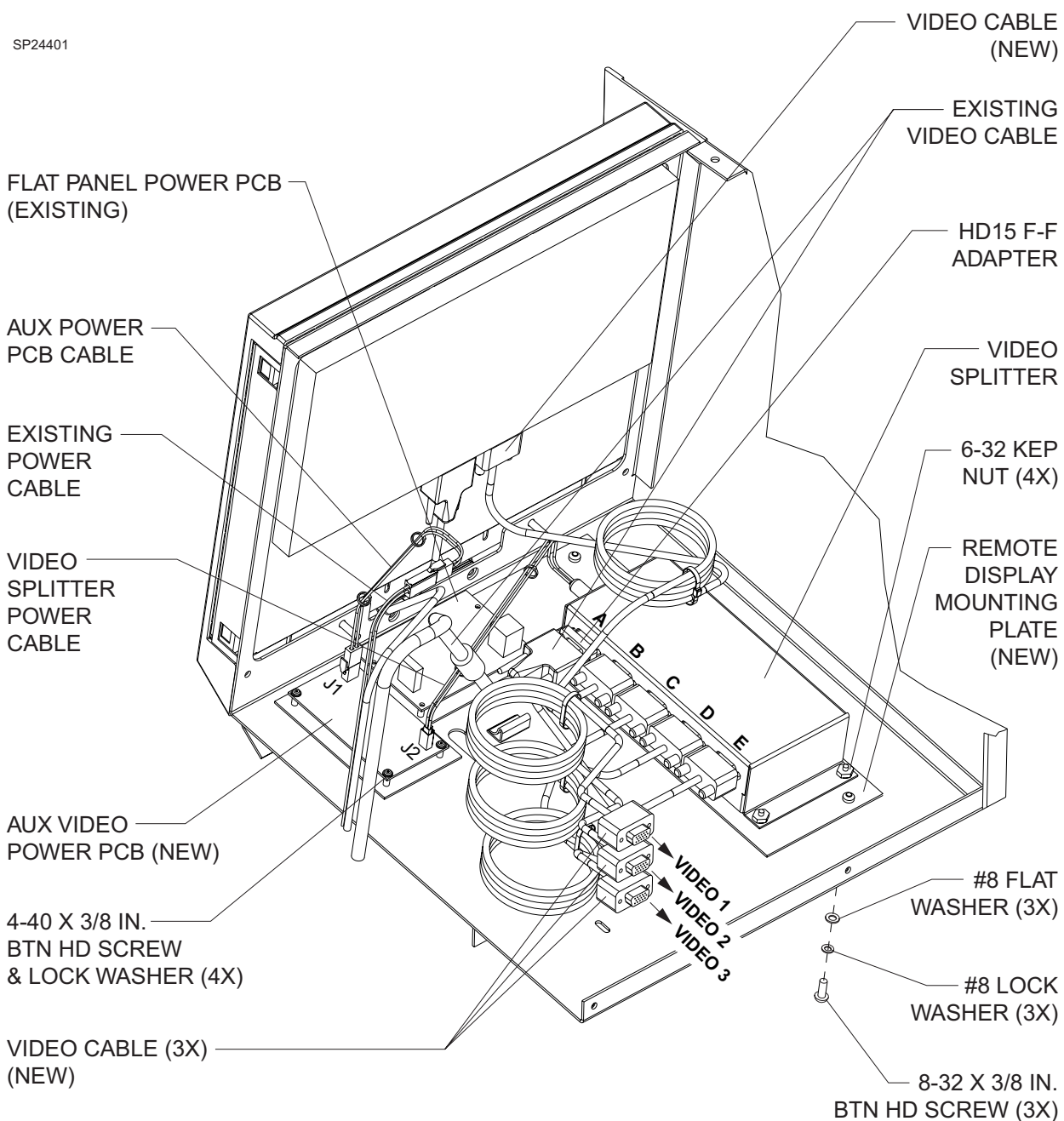


FIGURE 1. Video Splitter Installation

| |
|---|
| Installation Procedure (continued) |
|---|

- 1.12 Install the new remote display mounting plate in the chassis with three 8-32 x 3/8 in. btn hd skt screws, #8 int-t lock washers, and #8 flat washers. Thread these screws up through the chassis and into the inserts in the mounting plate.
- 1.13 Connect the video splitter power cable (4117804) from J2 on the aux video power PCB to the video splitter as shown in Figure 1.
- 1.14 Locate the existing un-used two-conductor power cable at the side of the chassis. Join this power cable to one end of the aux power PCB cable (4117805). Connect the other end of the aux power PCB cable to J1 on the aux video power PCB. See Figure 1.
- 1.15 Remove the female stud from the female-to-female HD15 adapter (4117784) and install it into Port **A** on the video splitter. See Figure 1.
- 1.16 Disconnect the existing video cable from the flat panel display, and connect it to the adapter in Port **A** of the video splitter.
- 1.17 Connect the video cable (4117782) from Port **B** to the flat panel display. Coil the excess cable length and tie-wrap as shown in Figure 1.
- 1.18 Connect the three remote video cables (4117783) to Ports **C**, **D** and **E** on the video splitter. Coil the excess length on each cable, and tie-wrap as shown in Figure 1.
- 1.19 Apply the new label (4117780) on the cover where shown in Figure 2.

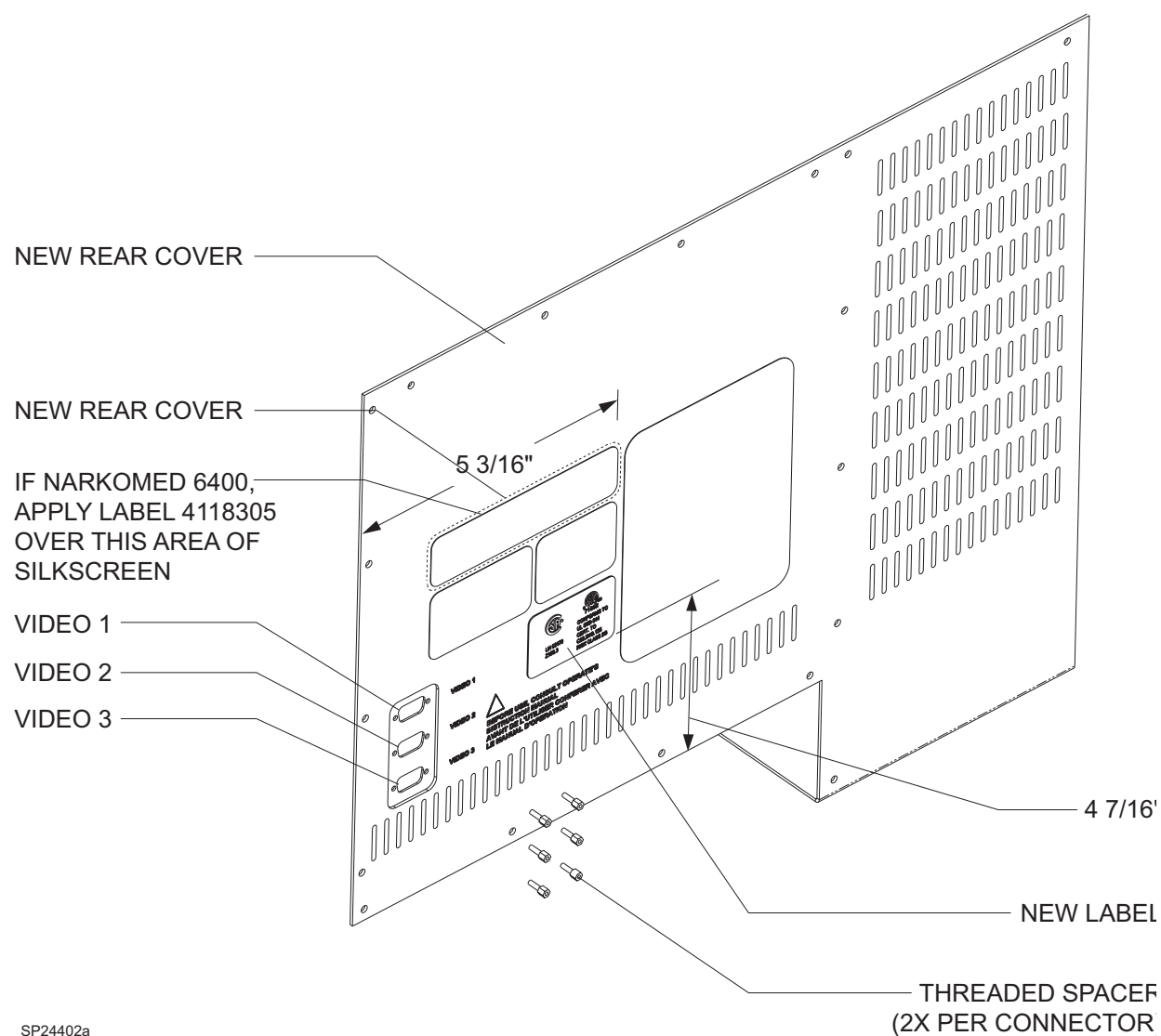
NOTE: The next step is for NM6400 machines ONLY. Skip step and discard label (P/N 4118305) when installing Auxiliary Video in other NM6000 Series machines.

- 1.20 Apply label (P/N 4118305) on the rear cover as shown in Figure 2. Apply label so that the indicated area of silkscreen is covered.
- 1.21 Position the new rear cover (4117794) at the back of the machine (see Figure 2); provide temporary support for the cover to prevent damage to the cables installed in the next step.
- 1.22 Remove the thumb screws from the female end of the remote video cables that will be installed at the back panel, and install the outboard end of the remote video cables as follows:

| <u>Cable from</u> | <u>Install at</u> |
|-------------------|-----------------------|
| Port C | Video 3 on rear cover |
| Port D | Video 2 on rear cover |
| Port E | Video 1 on rear cover |

Secure each connector with two threaded spacers (4110589-036); use Loctite #425 on the threads.

Installation Procedure (continued)



SP24402a

FIGURE 2. New Rear Cover, Label and Connectors Installation

1.23 Install a dust cap (4117861) on each of the three video connectors.

NOTE: Skip the next step if you are installing a machine-mounted display option at this time.

1.24 Install the new cover (4117794) on the rear of the machine.

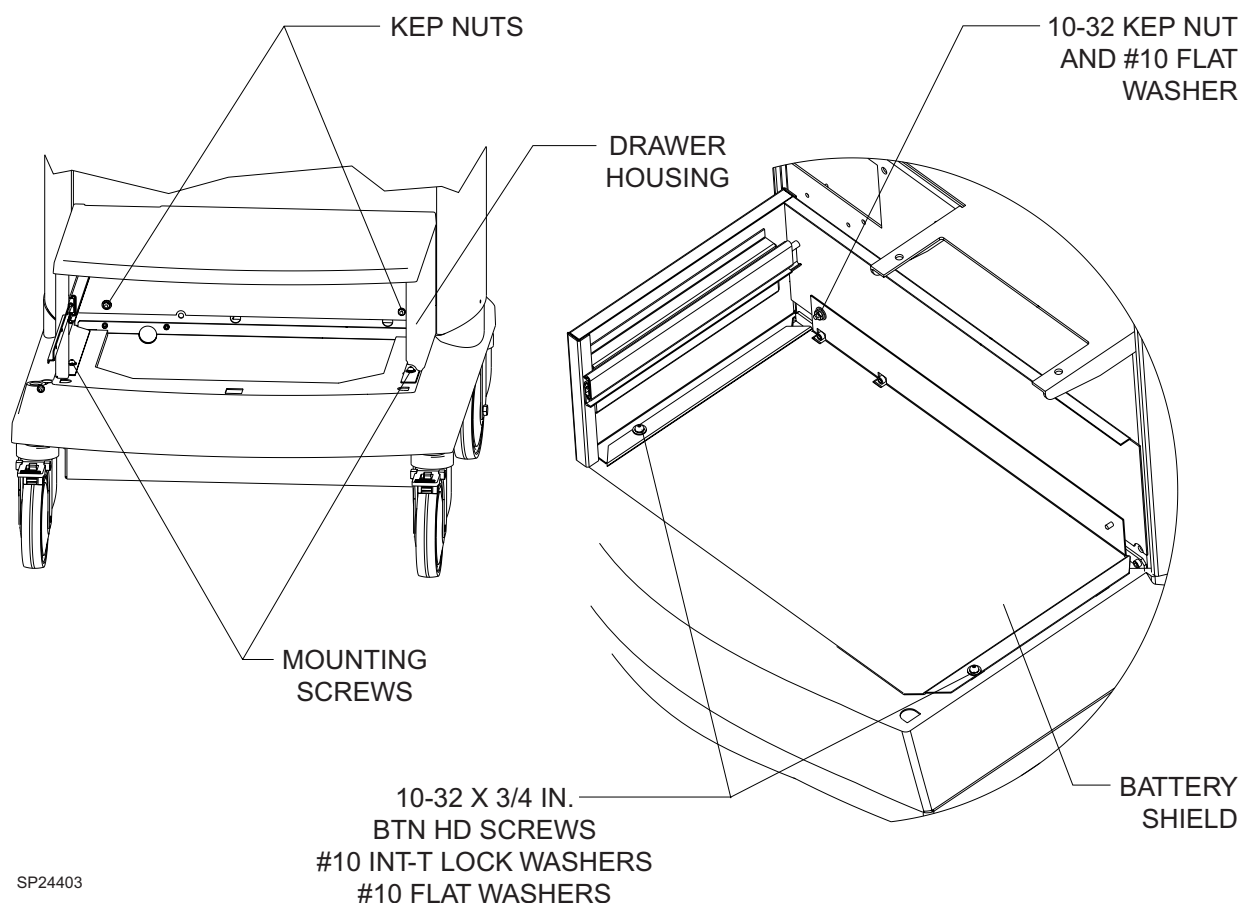
Installation Procedure (continued)

2.0 Installing the Battery Shield and Drawer Ground:

- 2.1 Pull the drawer all the way out and remove it from its tracks by pulling up on both black retaining clips.
- 2.2 Remove the drawer housing from the machine. It is retained by two screws at the front and two Kep nuts at the back as shown in Figure 3.
- 2.3 Insert the battery shield up through the bottom of the drawer housing - oriented as shown in Figure 3.
- 2.4 Place the drawer housing and shield on the machine - so that the studs in the back wall of the machine project through the holes in the drawer housing and battery shield.

Secure the left rear corner of the shield and housing with a 10-32 Kep nut and #10 flat washer.

Secure the front of the shield and housing with two 10-32 x 3/4 in. btn hd skt screws, #10 int-t lock washers, and #10 flat washers. Thread these screws into the existing tapped holes in the frame of the machine.

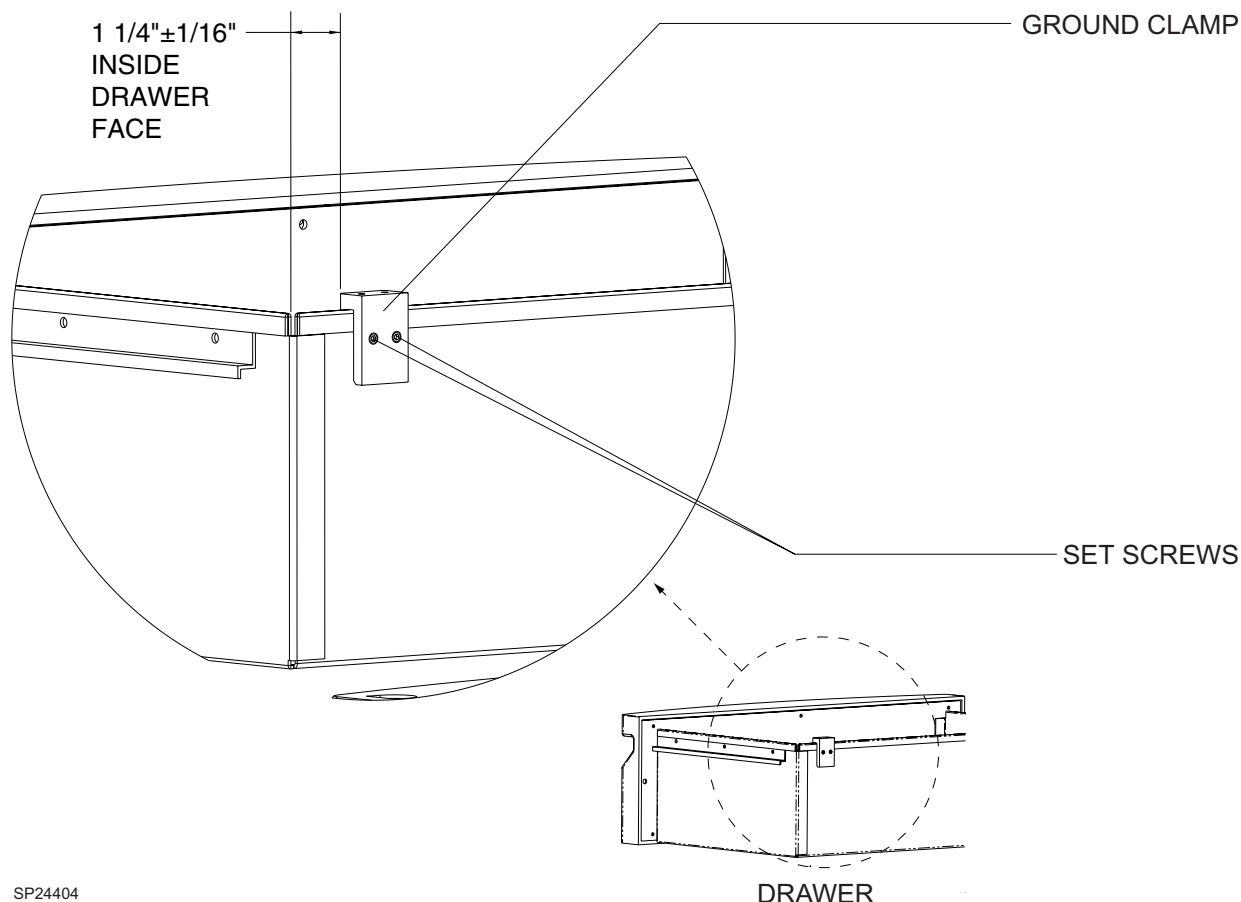


SP24403

FIGURE 3. Battery Shield Installation

Installation Procedure (continued)

- 2.5 Place the ground clamp (4117792) on the rear edge of the drawer - oriented as shown in Figure 4, and mark its location.
- 2.6 Remove the paint from the drawer where the clamp set screws will contact bare metal when the clamp is installed.
- 2.7 Install the clamp and tighten the set screws; use Loctite #222 on the threads.



SP24404

FIGURE 4. Ground Clamp Installation

- 2.8 Attach one end of the ground strap assembly to the right rear stud projecting through the battery shield, and secure it with a 10-32 Kep nut. See Figure 6.
- 2.9 Attach the other end of the ground strap assembly to the ground strap bracket as shown in Figure 5. Secure it with a 10-32 Kep nut.
- 2.10 Pull the drawer tracks out. While holding the drawer in position, attach the ground strap bracket (4117791) to the ground clamp with two 6-32 x 1/4 in. btn hd skt screws and #6 int-t lock washers. See Figure 5.

Installation Procedure (continued)

2.11 Reinstall the drawer on the tracks. Make sure it operates properly without binding.

NOTE: Proceed to Section 3 or Section 4 if you are installing a display unit at this time.

This completes the NM6000 auxiliary video installation.

2.12 Restore power to the machine and perform the PHASE adjustment on the flat panel display as given in Section 5.7A of the Narkomed 6000 Technical Service manual.

2.13 Reinstall the table lamp panel at the front of the machine.

2.14 Verify the machine's self-diagnostics, flat panel display, remote display, aux lamp and strip chart recorder (if fitted) are working properly.

2.15 Perform electrical safety and battery tests; refer to Section 6 in the Narkomed 6000 Technical Service Manual.

2.16 Locate the Operator's Manual binder assembly and insert Supplement (4117816), Auxiliary Video Output Option, behind the supplement tab.

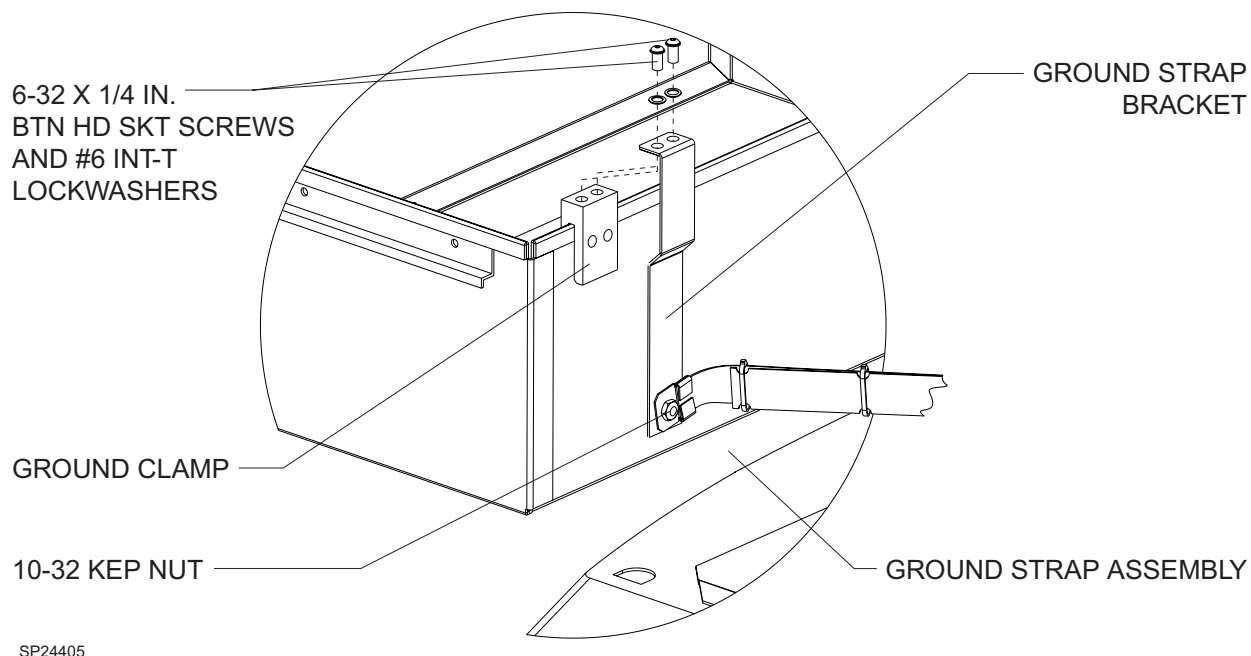


FIGURE 5. Ground Strap and Bracket Installation

Installation Procedure (continued)

SP24406

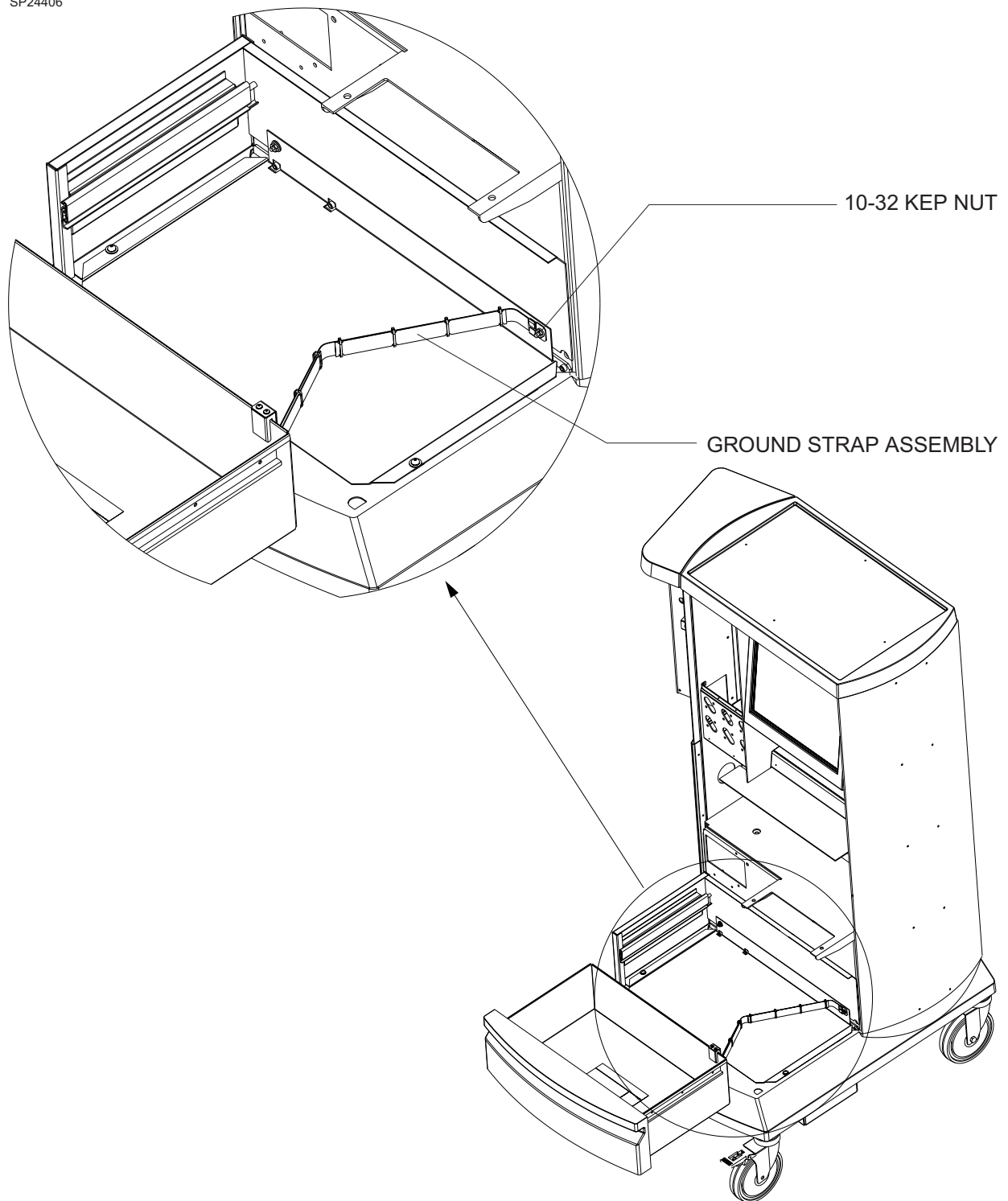


FIGURE 6. Ground Strap Installation

| |
|---|
| Installation Procedure (continued) |
|---|

3.0 Installing the Machine-Mounted Display Option:

NOTE: Skip to the next section if your installation includes a wall-mounted display option.

- 3.1 Remove the IPM pod if the machine is so equipped.
- 3.2 Remove the top cover from the machine and install the GCX top shelf channel & base plate (4117786) in accordance with instructions supplied by GCX.
- 3.3 Install the GCX counter top arm (4117787) and display unit in accordance with instructions supplied by GCX.

NOTE: If machine is fitted with an electrical outlet strip, remove this device and relocate it to the back panel as shown in Figure 7.

- 3.4 Install the 12 in. GCX rail (4117788) on the back of the machine using the hardware supplied by GCX. See Figure 7.
- 3.5 Install the GCX transformer mounting plate (4117798) in the 12 in. GCX rail.
- 3.6 Attach the isolation transformer (4114985), oriented as shown in Figure 7, to the transformer mounting plate with four 10-32 Kep nuts.
- 3.7 Reinstall the IPM pod - if applicable.
- 3.8 Install the new cover on the rear of the machine.
- 3.9 Apply the new label (4117780) on the cover where shown in Figure 2.
- 3.10 Connect video cable (4117781-005) from the display unit to the Video 1, Video 2, or Video 3 connector on the back of the machine as shown in Figure 7.
- 3.11 Verify there is a dust cap (4117861) on each of the unused video connectors.
- 3.12 Connect the display power cord (4113389) from the display unit to the isolation transformer as shown in Figure 7.
- 3.13 Connect the 15 ft. power cord (4109600) to the isolation transformer as shown in Figure 7. Connect the other end of the cord to a hospital AC wall outlet.

CAUTION: Do Not plug the other end of the power cord into the convenience outlet on the machine.

This completes the NM6000 auxiliary video installation with machine-mounted remote display option.

| |
|---|
| Installation Procedure (continued) |
|---|

- 3.14 Restore power to the machine and perform the PHASE adjustment on the flat panel display as given in Section 5.7A of the Narkomed 6000 Technical Service manual.
- 3.15 Reinstall the table lamp panel at the front of the machine.
- 3.16 Verify the machine's self-diagnostics, flat panel display, remote display, aux lamp, strip chart recorder and IPM (if fitted) are working properly.
- 3.17 Perform electrical safety and battery tests; refer to Section 6 in the Narkomed 6000 Technical Service Manual.
- 3.18 Locate the Operator's Manual binder assembly and insert Supplement (4117816), Auxiliary Video Output Option, behind the operator's manual.

Installation Procedure (continued)

SP24407

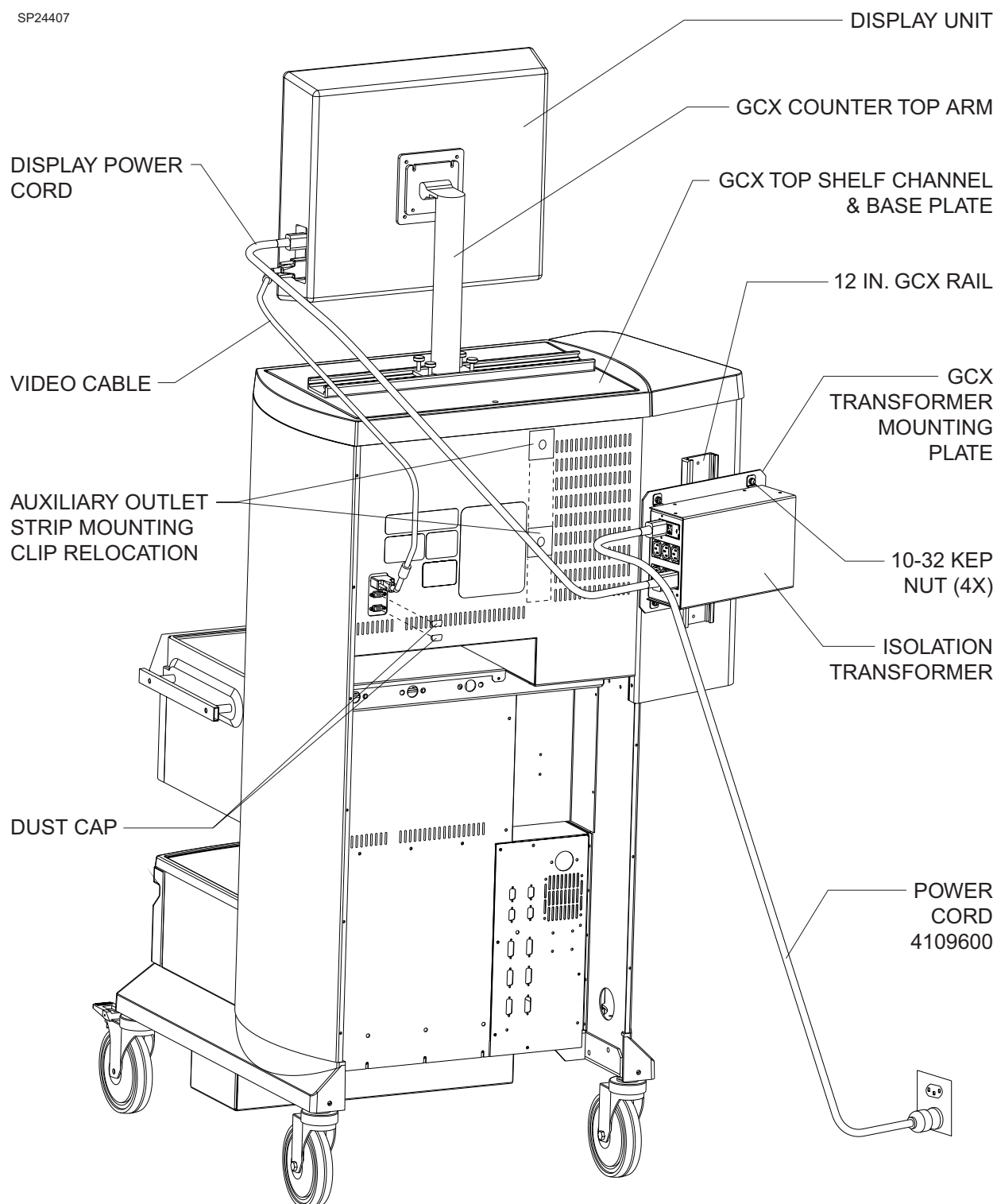


FIGURE 7. Machine-Mounted Display Installation

| |
|---|
| Installation Procedure (continued) |
|---|

4.0 Installing the Wall-Mounted Display Option:

WARNING: Refer wall channel installation to qualified personnel. Failure to follow manufacturer's instructions may result in serious injury.

For additional information contact:

GCX Corporation
3875 Cypress Drive
Petaluma, CA 94954-5635

Phone: 707 773-1100
Fax: 707 773-1180
Web: www.gcx.com

- 4.1 Attach the 19 in. GCX rail (4117778) to the wall at the desired height and location, using the hardware supplied by GCX. See Figure 8.
- 4.2 Install the GCX pivot arm (4117777) and display unit in accordance with instructions supplied by GCX.
- 4.3 Install the GCX transformer mounting plate (4117798) in the GCX rail.
- 4.4 Attach the isolation transformer (4114985), oriented as shown in Figure 8, to the transformer mounting plate with four 10-32 Kep nuts.
- 4.5 Connect video cable from the display unit to the Video 1, Video 2, or Video 3 connector on the back of the machine as shown in Figure 8.
- 4.6 Verify there is a dust cap (4117861) on each of the unused video connectors.
- 4.7 Connect the display power cord (4113389) from the display unit to the isolation transformer as shown in Figure 8.
- 4.8 Connect the 15 ft. power cord (4109600) to the isolation transformer as shown in Figure 8. Connect the other end of the cord to a hospital AC wall outlet.

CAUTION: Do Not plug the other end of the power cord into the convenience outlet on the machine.

This completes the NM6000 auxiliary video installation with wall-mounted remote display option.

- 4.9 Restore power to the machine and perform the PHASE adjustment on the flat panel display as given in Section 5.7A of the Narkomed 6000 Technical Service manual.
- 4.10 Reinstall the table lamp panel at the front of the machine.

| |
|---|
| Installation Procedure (continued) |
|---|

- 4.11 Verify the machine's self-diagnostics, flat panel display, remote display, auxiliary lamp and strip chart recorder (if fitted) are working properly.
- 4.12 Perform electrical safety and battery tests; refer to Section 6 in the Narkomed 6000 Technical Service Manual.
- 4.13 Locate the Operator's Manual binder assembly and insert Supplement (4117816), Auxiliary Video Output Option, behind the operator's manual.

Installation Procedure (continued)

SP24408

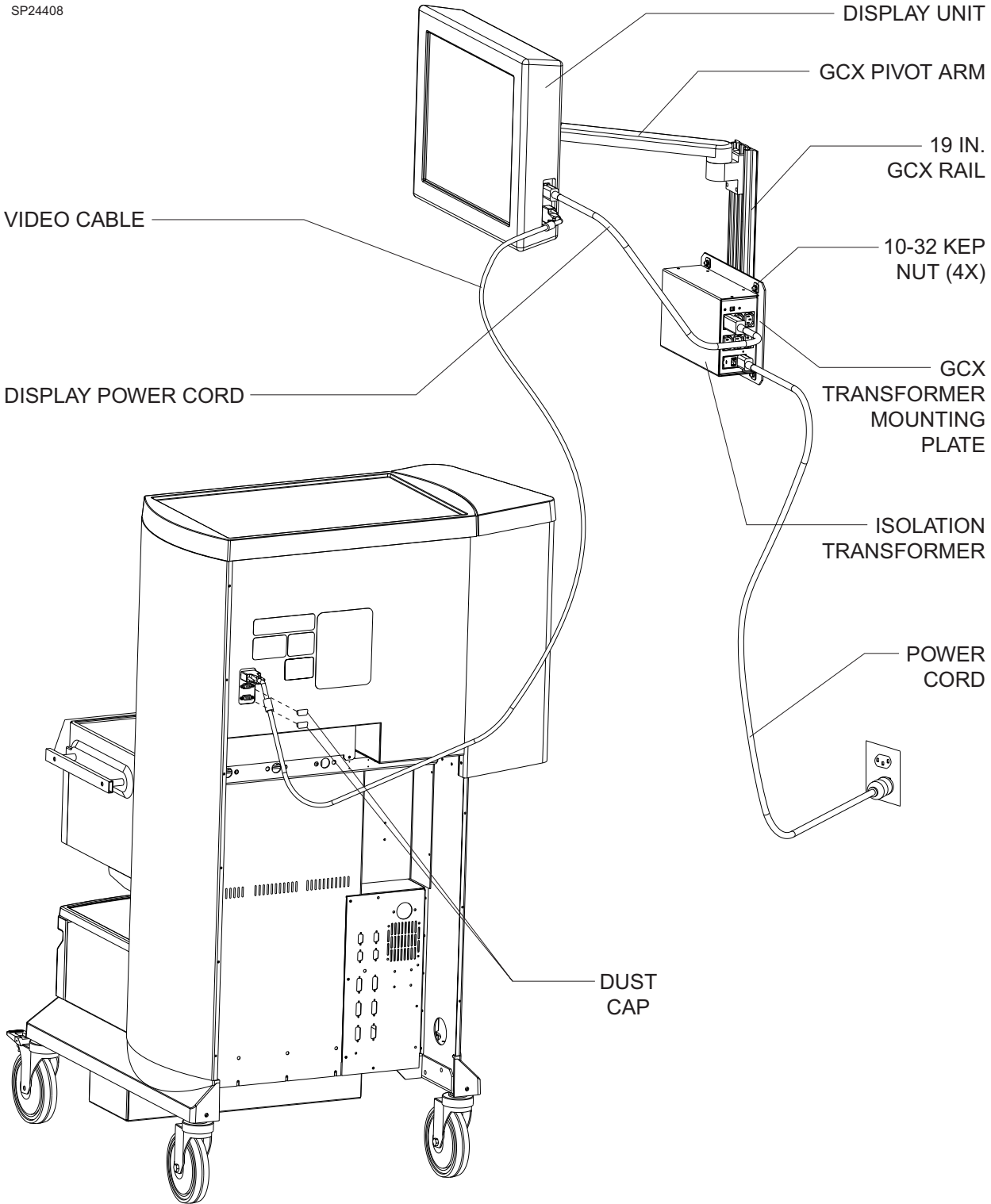


FIGURE 8. Wall-Mounted Display Installation

[RETURN TO SERVICE PROCEDURE TABLE OF CONTENTS](#)
[RETURN TO CD-ROM TABLE OF CONTENTS](#)

RETURN TO SERVICE PROCEDURE TABLE OF CONTENTS
RETURN TO CD-ROM TABLE OF CONTENTS



DrägerService is a division of
Dräger Medical, Inc.
3122 Commerce Drive
Telford, PA 18969
Tel: (215) 721-5402
(800) 543-5047
Fax: (215) 721-5784
Web: www.draegermedical.com
Printed in the U.S.A.